ALL CHAPTER ISSUE

The Biologist

Vol. XXI, No. 2 December, 1939

NINTH NATIONAL MEETING

Phi Sigma
BIOLOGICAL HONOR SOCIETY

"The object of Phi Sigma is to promote interest in biological research. Although originally designated as an honorary biological research society, it should now be considered as a working guild of biologists interested in research. In effect, election to Phi Sigma should be an opportunity for better work, rather than merely election to an honorary society."

Mile Posts:

1915 March 17, Alpha Chapter organized, Ohio State University.

1916 May, Central Governing Body organized, BIOLOGIST first issued.

1917 June, last War-time BIOLOGIST issued.

1921 February, BIOLOGIST revived.

1924 December, First National Convention, Constitution revised, Washington, D. C.

1925 December, Second National Convention, First Scientific Program, Kansas City.

1926 December, Third National Convention, Second Science Program, Philadelphia.

1927 December, Third Science Program, Nashville.

1928 December, Fourth National Convention, Coat-of-Arms adopted, Fourth Science Program, New York.

1930 January, Council Meeting, Ritual Revised, Norman, Okla.
December, Fifth National Convention, Fifth Science Program, Cleveland.

1931 Phi Sigma Letters Registered, U. S. Patent Office.

1932 December, Sixth Science Program, Atlantic City.

1933 June, Sixth National Convention, Seventh Science Program, Chicago.

1935 December, Seventh National Convention, Eighth Science Program, St. Louis.

1937 December, Eighth National Convention, Ninth Science Program, Indianapolis.

Expansion:

The Constitution provides that: "An active chapter may be established in any institution of learning which requires for graduation the equivalent of four years of collegiate work, and which is equipped with facilities for research work. - - - - Any petitioning group must be active for at least one year before it may be granted a charter."

THE BIOLOGIST

Vol. XXI Denver, Colo., December, 1939 No. 2

Published by the Phi Sigma Society, an organization devoted to the promotion of interest in biological research, founded at Ohio State University, March 17, 1915. The Biologist is the official quarterly publication of the society, issued ordinarily in October, December, February and April, as a medium of exchange between chapters, as an interpreter of Council policies, and as a stimulus to the fellowship in science for which Phi Sigma stands.

Council

HONORARY PRESIDENT

Dr. Alexander G. Ruthven (Beta '30)
President of the University of Michigan,
Ann Arbor, Michigan

CHANCELLOR

Dr. Paul A. Warren (Beta '20)
Botany Department,
Tufts, College,
Medford, Massachusetts

VICE-CHANCELLOR

Dr. Melville H. Hatch (Beta '18)
University of Washington,
Seattle, Washington

SECRETARY

Dr. A. I. Ortenburger (Beta '19)
Zoology Department,
University of Oklahoma,
Norman, Oklahoma

TREASURER

Erwine Hall Stewart (Epsilon '17)
Mesa, Colorado

EDITOR

Dr. Anselm M. Keefe (Zeta '24)
St. Norbert College,
West DePere, Wisconsin

Contents

SPECIAL FEATURES

We Shall Not Pass This Way Again 58

The National Chancellor 59

The Reminiscent Treasurer 61
Erwine H. Stewart

An Open Letter 62

National Secretary's Report 64
Arthur I. Ortenburger

Summarized Report of the Treasurer 67
Erwine Hall Stewart

REGULAR FEATURES

Editorials 68

Chapter News Letters 71

Book Reviews 85

Advertising ..... Back Cover

Directory

OF ALL ACTIVE AND INACTIVE CHAPTERS

The list of chapter officers will be found in the CHAPTER NEWS section

---

ALPHA
Ohio State University, Columbus, Ohio, founded March 17, 1915, (Inactive).

BETA
University of Michigan, Ann Arbor, Michigan, founded June 3, 1916.

DELTA
University of Maine, Orono, Maine, founded January 27, 1917.

EPSILON
University of Denver, Denver, Colorado, founded March 5, 1917.

ZETA
University of Wisconsin, Madison, Wisconsin, founded May 30, 1917.

ETA
University of Akron, Akron, Ohio, founded April 20, 1921.

THETA
Michigan State College, East Lansing, Michigan, founded April 9, 1921.

IOTA
Washington University, St. Louis, Missouri, founded May 28, 1921.

KAPPA
University of Kansas, Lawrence, Kansas, founded May 31, 1921.

LAMBDA
University of Montana, Missoula, Montana, founded May 4, 1921.

MU
University of California, Berkeley, California, founded April 27, 1922.

NU
Washington and Jefferson College, Washington, Pennsylvania, founded May 11, 1922.

XI
University of Nebraska, Lincoln, Nebraska, founded May 3, 1934.

OMICRON
University of North Dakota, Grand Forks, North Dakota, founded May 26, 1924, (Inactive).

PI
Emory University, Georgia, founded January 3, 1925.

RHO
University of Illinois, Urbana, Illinois, founded March 28, 1925.

SIGMA
University of Florida, Gainesville, Florida, founded December 4, 1925.

TAU
Duke University, Durham, North Carolina, founded March 4, 1926.

UPSILON
Miami University, Oxford, Ohio, founded May 7, 1926.

PHI
University of New Hampshire, Durham, New Hampshire, founded May 21, 1926.

CHI
Montana State College, Bozeman, Montana, founded February 11, 1927.

PSI
University of Washington, Seattle, Washington, founded April 7, 1928.

OMEGA
University of Oklahoma, Norman, Oklahoma, founded March 24, 1928.

ALPHA ALPHA
University of Southern California, Los Angeles, California, founded May 17, 1930.

ALPHA BETA
Mount Union College, Alliance, Ohio, founded May 17, 1928.

ALPHA GAMMA
University of South Dakota, Vermillion, South Dakota, founded May 15, 1928, (Inactive)

ALPHA DELTA
Lawrence College, Appleton, Wisconsin, founded March 7, 1929.

ALPHA EPSILON
University of Pittsburgh, Pittsburgh, Pennsylvania, founded March 23, 1929.

ALPHA ZETA
College of William and Mary, Williamsburg, Virginia, founded April 19, 1930.

ALPHA ETA
Oklahoma Agricultural and Mechanical College, Stillwater, Oklahoma, founded March 13, 1930.

ALPHA THETA
State College of Washington, Pullman, Washington, founded May, 1930.

ALPHA IOTA
Bucknell University, Lewisburg, Pennsylvania, founded January 9, 1932.

ALPHA KAPPA
Hunter College, New York City, founded January 8, 1932.

ALPHA LAMBDA
University of Utah, Salt Lake City, Utah, founded February 13, 1932.

ALPHA MU
University and State College of Oregon, Eugene-Portland-Corvallis, Oregon, founded November 18, 1933.

ALPHA NU
University of New Mexico, Albuquerque, New Mexico, founded April 21, 1935.

ALPHA XI
Rhode Island State College, Kingston, Rhode Island, founded May 17, 1935.

ALPHA OMICRON
Marquette University, Milwaukee, Wisconsin, founded June 18, 1938

We Shall Not Pass This Way Again

Thomas Arkle Clark, dean of men at the University of Illinois and one of the best-informed men on college and fraternity affairs in the country, once made a list of things that he would do if he had to go through college again. Were he to begin his college days anew, he says, he would:

1. Develop concentration . . . work harder but not so long.
2. Learn to work while others are around.
3. Put more stress on learning how to get information than upon the information itself.
4. Find more difficult tasks to do.
5. Learn to speak in public.
6. Learn to play well some athletic game.
7. Learn to do one line of work particularly well.
8. Get better acquainted with his instructors.
9. Take fewer courses which are strictly practical.
10. Have an avocation which would bring him into close touch with men.—*Caduceus.*

The National Chancellor

Speaks to Delegates to the Silver Jubilee:

In a few weeks we return to the place of our birth. Twenty-five years ago, come St. Patrick's Day, eleven Ohio State students gathered at the Ohio Union at Columbus to organize "The Phi Sigma Honorary Biological Society". Many old-timers will assemble to celebrate the event. Stewart and Hatch and Keefe and Ortenburger and you and I will be there to do some work and help the others celebrate.

And there is work to do. Keefe, Stewart and Ortenburger keep the fraternity going between conventions. You and I do most of our work at the conventions. Stewart collects the money, Keefe edits the BIOLOGIST, Ortenburger runs the National Office and then you and I get together every two years to decide whether there shall be any money or any BIOLOGIST or any National Office, or any Phi Sigma. None of the National Officers vote at a National Meeting, so, after all, this work is yours. Are you ready to tackle the job? I shall merely preside over your meetings as I did at Chicago, at St. Louis and at Indianapolis. Three conventions and ten years of participation in the work of the National Council have taught me to listen to every word of constructive criticism of our national policy. Rumblings of discontent, sharp denunciatory criticism, prophecies of catastrophe, local agitation for the abolition of the BIOLOGIST, of the Convention and of the Society no longer disturb me. Inactive chapters, lack of expansion, lack of interest worry me more but fail absolutely to turn me into a prophet of despair. All this is because I have great confidence in the behavior of delegates at a convention.. I have seen wild-eyed radicals and stand-pat conservatives flatten each other out on the floor of the convention. I have watched three groups of clever, well-balanced biologists compare the symptoms of adrenal hypersecretion and hookworm as they prepared to vote on important issues. Never have I witnessed a close contest on any issue of vital importance to the successful survival of Phi Sigma as a national institution.

At Columbus we shall be called upon to take inventory of our failures. Alpha Chapter has been inactive for fifteen years. We shall also take inventory of our successes. National policy includes all of the accumulated decisions affecting those characteristics of the organism which have survival value. If you have a constructive proposal, the convention will hear you. If you have a panacea for all our ills, the convention will turn you down.

The assembled delegates and the ghosts of past conventions will have ready answers to many questions which you may wish to ask. Is Phi Sigma an honor society? Should the Biologist publish scientific articles? Should local chapters have faculty sponsors? Should local control be in the hands of graduate or undergradu-

ate students or both? In these and many other matters which never reach the floor of conventions, national policy has long since been defined and tried in practice. The answer to all such questions is yes and no. There is no panacea for local ills.

You may take home from Columbus an idea which will prove the very making of your local Chapter. Beer and pretzels, hikes over mountains, open house plans, printed programs, more funds, less funds, invitation of celebrities, avoidance of celebrities, collective research, pretzels and beer may solve your local problem. The convention and the Council want to help you. Never under any circumstance will they let you down. A chapter never forces B chapter by national legislation to abandon or adopt its local policies.

Phi Sigma is organized to promote research. If you have a new idea along that line let us have it.

PAUL A. WARREN.

Reminiscent Treasurer

As Erwine Hall Stewart Looks At The Past

It is indeed with mingled feelings of pride and regret that I look back on my 26 years of association with the activities of Phi Sigma at the time of our silver anniversary, pride in what we have accomplished, and regret in our short-comings. We have had many hard struggles and severe growing pains in our determination to keep Phi Sigma what the early founders decreed she should fundamentally be, —namely, an organization of, by, and for, the students with the express purpose of encouraging our young biologists, no matter how humble their efforts might seem, to the attainment of truth and light.

The large University with its graduate chapter, and the small college with its undergraduate chapter, have been a thorny problem. Still we have held together in spite of divergence of opinions on the subject, and much of our most hopeful accomplishment has developed from the smaller institutions.

In some cases an over zealous faculty member or department head has sought to dominate a chapter, while in others a jealous one has sought to sabotage it. The attainment of a sympathetic and encouraging faculty is not always easy.

The selection of national officers for the Society has never been an easy problem. In the beginning we tried to have them entirely from the active student chapters. That soon proved utterly unworkable, so that faculty and alumni members must needs furnish the material. The first requisite for a national officer is someone who is capable, and will devote time to the work without monetary compensation. By "*time*" I mean a good deal of time, and that means daily attention, not just picking it up in wads at vacation time and then let the correspondence pile up until the next holiday. To date we have been successful in that we have always had some two or three on the Council who have given the time altho it has been a serious sacrifice for some of them to do so. Some have been elected to office with the apparent feeling and attitude that as Phi Sigma was an honorary society they need not do anything in the way of functioning. Should we have more than two such on the Council at any given time, the affairs of the Society would disintegrate rapidly. The Society is especially indebted to Drs. Reed, Ortenburger and Keefe for the sacrifices they have made on her behalf. They have laid a foundation on which we can safely continue our activity.

In closing I wish to say that Phi Sigma and what it has stood for, was in my student days an inspiration for better scholarship, more accurate research and higher ideals. I know that it has filled the same place and performed similar service in the lives of others and has thus richly justified its right to live and expand.

An Open Letter

From a Nationally Known Biologist

October 27, 1939

To the National Council of Phi Sigma:

During the xx years in which a chapter of Phi Sigma has been in existence on the campus of the University of xxxx, many very important accomplishments can be credited to the organization. A less number of harmful actions are however also to be laid at its door. It is not necessary to detail the latter any more than the former, but they range from the promotion of discord and jealousy to the assumption of authority which students do not possess and the failure to cooperate in matters of importance to the University with the constituted authorities. A late illustration of a harmful action is a decision to elect no person who expects later to take up the study of medicine. It has not always been possible to "point with pride" to the activities of the chapter, although they have been useful in the majority of cases.

The root of the difficulty seems to lie in the rapidly changing character of the active membership, in their very different degrees of advancement, and in the fact that decisions involving matters outside their scope are left to immature persons. As at present run, the chapters of Phi Sigma do not even have faculty sponsors who may provide for continuity of policy or serve as a means of communication between the national secretary and chapters when retiring chapter officers have failed to send information regarding successors to the central office! It occurs to me therefore, that the national organization should undertake reforms on some points if the local chapters are to serve their greatest usefulness.

Phi Sigma really seems to aim to serve two very different functions: to act as an honor society in recognizing fine student accomplishment, and to function as a professional organization in stimulating biological interest and work. In this dual nature is perhaps the underlying source of difficulties. It is only a very skilfull and experienced rider who can keep gracefully astride two horses at once. As a professional society Phi Sigma rightly places its work entirely in the hands of its active membership who ought to carry on its responsibilities with only such advice as they themselves may find they need. I must say, however, that the policy that is traditional in may chapters of making a line of cleavage between faculty and student interest in the sciences of biology is certainly artificial and rather childish. The scientific spirit should imply an attitude of mind that is above any personal bickerings. Nevertheless, it goes without saying that if the routine activities of a chapter cannot be left to the active membership the group should disband.

The character of the organization as an honor society ought to imply a somewhat different set-up. This

function transcends the immediate activities of the local group and in the nature of the case assumes a semi-official character. It may be protested that this result is not contemplated or approved by the national organization. The practical fact is, however, that the value of the recognition on a campus is in proportion to the degree in which election is regarded as a kind of official approval of the individuals chosen, and adverse actions reflect illy on the institutions, on the efficiency of the departments and on the esprit d'corps which should be developed in and between them.

This would seem to imply that as long as recognition of merit is a primary objective it should not be left in the hands of immature and changing groups of students. It is impossible to formulate in terms of inflexible grade-averages criteria of eligibility, although general limits may be set. Students do not have access to the facts which lie behind the grades of special cases, nor the knowledge to judge adequately fitness for future accomplishment. Election of members should be matters of the most serious concern as long as it is attempted to maintain them as honor awards. It is true the faculty members of Phi Sigma are often (I presume usually) asked for opinions, but the opinions may be looked upon as gratuitous and decisions are made (as in the case mentioned above) which are not the result of careful consideration and certainly did not come from faculty advice or even knowledge. It is my conclusion that elections to honor membership should only be undertaken with faculty participation.

An alternative might very well be the definite abandonment of any attempt to maintain the Society on an honor basis. There are valid arguments both for and against the adoption of a policy of this sort, but that is a matter for the national organization to decide, and I do not care to comment on it.

I am personally of the conviction that some change is necessary if the society on this campus is to find its greatest sphere of usefulness. There have been times when we would have preferred that a chapter were not in existence here. I am expressing these opinions personally, but I am well aware that I am not alone in entertaining them.

Very truly yours,

xxxxxxx

Editorial Note:

The noted author of this letter demurred on its publication in the BIOLOGIST on the grounds that everyone would probably come to the conclusion that he advocates Faculty Sponsorships. He was, moreover, kind enough to suggest that the Editor should publish an abstract in his own words. This your Editor hesitated to do. No abstract could be as decisive in statement as the original. After all, the membership of Phi Sigma have a right to know what the department heads on their own campuses are thinking, even when diplomacy and local conditions make them withhold their private opinions. The author is to be commended for an honest statement fearlessly expressed. It is welcome, we only regret that more such do not come our way.

The main contention should not be lost sight of. After twenty-five years of existence we should be in a position to reassess our position in the academic world. Is the author absolutely right? Should PHI SIGMA boldly decide to drop the designation "Honorary" and come out as a professional group?

With the endless multiplication of honor societies going on as it is, would it not be more HONORABLE to go professional? Read the statement of our objectives that has been appearing for years in our literature. You will find it on the inside front cover. Your Editor, for one, would welcome a thorough winnowing of this subject at the Columbus Meeting.

ANSELM M. KEEFE, *Editor.*

The National Secretary's Report

This report covers the interval since my last report given at the Convention held at Indianapolis in December 28-29, 1937. For the first time in the history of our organization the National Secretary's report is being sent to all chapters in advance of the time of the National Meeting. This procedure was ordered at the 1937 Convention; accordingly a mimeographed copy of this report as well as that of the National Treasurer is being sent to each chapter secretary.

Much of what I might have said in this report has already come to you in the recent number of the BIOLOGIST, as your National Editor wished to publish some of the details of the duties of the National Secretary. Hence, I shall not bore you with repetition.

First, however, I do wish to take this opportunity to thank the officers of the several chapters for their cooperation during the past two school years. After all, there isn't much a national officer can do without the necessary information and help he must have from the chapters. I believe we should think of this office as a clearing house for the chapters and a place where we try to coordinate necessary facts and materials. Each year the problems which confront the chapter officers and National Secretary seem to become fewer. I have tried to make the machinery as simple as possible: I have tried to answer all letters promptly; I have tried to notify chapters of all matters requiring their attention as early as possible. All in all I feel that we have progressed in a very satisfactory manner. Speaking from the experience I have gained over the past eleven years, I can tell you honestly that the machinery each year has run a little more smoothly and that the squeaks so noticeable years ago have been oiled by chapter cooperation, and have nearly disappeared.

It will be of interest to the members of Phi Sigma to know that our group as a national organization is certainly holding its own. Our new chapter, Alpha Omicron at Marquette University, was installed in June, 1938, by the National Editor, Dr. A. M. Keefe. The Secretary's office has been in communication as usual with several more clubs and groups at various institutions relative to the possibility of granting charters. Alpha Zeta at William and Mary College has apparently become inactive. In numbers initiated there has been a slow but regular increase. Since my last report the figures are as follows: 1937-1938—681: and 1938-1939—662. When I remember that the year that I was initiated (1919) only 32 were initiated in the 6 chapters then in existence, it seems that we have come a long way, especially since there have been more than 550 initiated each year for the whole term of eleven years that I have served as a national officer. And while we are speaking of figures may I mention that before the National Meeting at Christmas time the 10,000th. member will have been initiated. As I have mentioned in reports of other years, mere numbers mean little, but in Phi Sigma with its high standards such a figure has real significance. I am attaching to this brief report a tabulation showing the growth of our organization.

CHAPTER	—'15-'16	—'16-'17	—'17-'18	—'18-'19	—'19-'20	—'20-'21	—'21-'22	—'22-'23	—'23-'24	—'24-'25	—'25-'26	—'26-'27	—'27-'28	—'28-'29	—'29-'30	—'30-'31	—'31-'32	—'32-'33	—'33-'34	—'34-'35	—'35-'36	—'36-'37	—'37-'38	—'38-'39	TOTALS
ALPHA	40	3	7	4		1	13	2																	70
BETA	14	26	30	24	33	26	17	35	25	28	18	20	21	18	32	41	32	28	40	27	41	42	42	60	720
GAMMA																									
DELTA			22				2	27	29	8	27	21	23	29	24	22	19	12	16						281
EPSILON			20	1	8		7	6	5	7	7	13	9	14	20	9	16	4	18	10	8	13	15	12	222
ZETA			26	3	29	15	18	12	28	44	28	49	41	37	41	50	44	25	14	22	31	31	32	33	653
ETA						21	7	12	8	4	8	12	7	10	12	6	9	6	9	5	11	6	8		161
THETA						19	11	18	16	17	3	36	22	60	18	26	31	17	14	11	14				303
IOTA						13	18	20	15	27	22	6	24	61	4	24	10	25	17	17	13	27	26	20	389
KAPPA						54	17	24	31	19	34	23	31	28	21	52	26	31	18	19	13	13	13	17	484
LAMBDA						17	10	19	20	19	28	20	19	10	9	24	13	10	16	17	15	21	21	32	340
MU								126	83	43	45	38	81	51	54	39	46	47	50	50	51	50	45	46	945
NU								43	5	8	9	12	11	13	9	7	8	7	10	6	8	9	11	10	186
XI									41	28	19	19	17	21	35	29	16	8		10					243
OMICRON									20	9	12	9	5												55
PI										18	4	10	8	23	10	8	10	5	8		13	6	15	6	144
RHO										30	22	33	21	22	19	30	24	11	10	24	14	30	14	20	324
SIGMA											19	20	15	21	15	21	25	6	14	16	10	2	17	13	183
TAU											21	13	11	21	13	11	16	13	6	14	10	15	20	20	204
UPSILON											38	14	17	13	28	23	24	32	20	48	26	26	38	38	385
PHI											55	14	29	19	17	17	28	30	23	28	20	14	27	17	338
CHI											22	10		6	8	6	10	13	9	9	12	8	7	14	134
PSI													47	29	22	47	45	45	22	23	31	25	24	25	385
OMEGA													22	20	12	15	18	23	20	23	24	33	20	16	246
A. ALPHA													40	29	16	17	19	16	18	17	9	22	18	16	237
A. BETA													34	7	15	20	30	24	17	30	22	29	16	16	260
A. GAMMA													24	10	14	15									63
A. DELTA														15	11	8	8	11	4	6					61
A. EPSILON														50	27	22	11	8	11	13	11	23	29	21	226
A. ZETA															33	21	17	17	13	13	21	12	2	6	155
A. ETA															48	49	16	26	21	7	23	14	43	40	287
A. THETA															42	18	37	21	15	17	30	20	45	45	290
A. IOTA																	35	16	5	10	4		10	9	89
A. KAPPA																	49	10	14	11	25	22	31	32	191
A. LAMBDA																	24	10	15	27	15	16	21	14	142
A. MU																			76	22	30	23	24	23	198
A. NU																				32	20	20	12	16	100
A. XI																				65	11	13	10	11	110
A. OMICRON																							29	6	35
TOTALS	54	29	105	32	70	166	120	344	326	309	451	392	579	597	629	677	694	551	549	649	595	585	685	654	9839

Total—July 30, 1939—9839 members.

During the past ten years many worthwhile objects have been attained by our society. We have during this time installed eleven chapters; we have standardized our ritual; we have had the society incorporated; we have had the name Phi Sigma copyrighted; we have published a directory and one supplement to it; the BIOLOGIST has become a journal respected all over the country; we have reduced national expenses and fees; and we have established the practice of awarding the Phi Sigma scholarship medal to the outstanding student in each chapter each year. To some of us who are old timers these seem like real accomplishments.

Many problems remain to be faced in the future. Some will be discussed at the coming National Meeting. Certain problems which were carefully considered at the last meeting of the National Council will be reported upon at the National Meeting by chairmen of chapter committees which were appointed. We have always been a really democratic organization, run in a really democratic way by delegates or representatives of the several chapters. The Council felt that perhaps if these student committees were appointed some time in advance of the National Meeting, definitely worthwhile suggestions for improvement might be expected.

We are still using the eleventh edition of our national constitution. We have continued to use this in spite of the fact that there were some minor changes made at the last convention. To save the organization money these changes were made in the copies already on hand by the use of a rubber stamp.

As I pointed out in my last report, the chapters and delegates should always remember that our present national constitution is the result of twenty-five years of experience and for this reason alone it should not be changed materially in any respect without very serious consideration. Of course in the past it has been changed but almost always in little ways and probably even so, too often. Our constitution should be considered as a rather permanent institution, not something for each Convention or National Meeting to play with and modify. Your present national officers, most of whom have served several years, could tell you of numerous instances where changes which would have been serious and far reaching in their results have almost been made. Our constitution has stood the test of time; it has worked well; it is still working well; there is no reason to believe it will not continue to work well. An organization celebrating its silver anniversary should by that time know what it is doing and what it plans to do.

This year we are changing our program somewhat in conformity with the suggestion made at the last National Meeting. First we are having our meetings late in the week of the A. A. A. S. meetings: second, we are having a relatively short scientific program. The reason for the first change is simply this—our delegates can now attend most of the meetings of A. A. A. S. and associated and affiliated societies if they care to do so. The reason for the second is to give the delegates the opportunity to present papers if they wish before the other societies and to give more time to what business we may ourselves have. This year I have gone a step further—I have scheduled our meetings at an hour either before or after most of the other society meetings in which our members might have an interest. We will see how we like our program arranged in this way.

If we like it we can continue, if not we can make any changes desired.

Now may I make a request or two —It has been our experience that it is much better for a chapter not to instruct its delegate, that is, do not tie his hands before he leaves with definite instructions as to how he must vote on certain agenda which may come up for consideration. Usually as these matters are discussed at the meetings new ideas, new evidence, and new thoughts come up from other chapter delegates which may well change the mind of your delegate and which would also in all probability cause your whole chapter to think differently. You should send a person whose judgment you can trust and you should trust it all the way. The other request is this; your delegate should be a person who is willing to think of national matters in a national way; Phi Sigma stands or falls on this. He should consider everything not from the standpoint of his particular chapter but from the standpoint of the whole organization. Every delegate has a voice; he is free to say and argue for what he considers right. Members of the National Council, you will find, are frank and say what they think; so should the chapter delegates. All of us have the general good of the society at heart.

ARTHUR I. ORTENBURGER,
National Secretary.

Summarized Report of the National Treasurer

January 1st, 1938 to October 10th, 1939

National Meeting Fund

The income for this fund is derived from initiation fees. From this fund various expenses of the national meetings and national council meetings are defrayed.

Cash balance on hand $5653.29

From the above balance the expenses of the forthcoming meeting at Columbus and the deficit and current expenditures of the General Fund must be paid.

General Fund

Since the suspension of the collection of the General Academic Assessment the income for this fund is derived from initiation fees. The expense of the offices of the national council are paid from this fund.

Deficit to date $321.69

Biologist Fund

The income for this fund is derived from initiation fees, advertising and paid subscriptions.

Cash balance on hand $1050.59

From the above balance the cost of publishing and mailing the BIOLOGIST is paid.

Endowment Fund

The income for this fund is derived from the royalty on the sale of keys and payment of one dollar made by those not buying keys and the interest on the deposited principle.

Cash balance on hand $1574.19

The cost of the scholarship award medals are paid from this fund.

ERWINE HALL STEWART, *National Treasurer.*

Editorials

Home Again

By the time this issue reaches its readers, the national officers and the chapter delegates will have planned their trips to Columbus for the ninth national meeting of the Phi Sigma Society. There another milestone will be set up along the road this fraternity has been hewing for itself through the tangle of conflicting educational pressures, techniques and terminologies.

This is to be in many ways a unique meeting. Chance, and the combined hospitality of the city of Columbus and Ohio State University, takes the A. A. A. S. to this spot in the winter of 1939-40. There, twenty-five years ago, on March 17, 1915, Phi Sigma was founded. Many of the earlier chapters have since gone out of existence. Many, not only of the early members, but of those who have entered every year, have gone into other than biological professions.

This was, and is, to be expected. The process of living is not mere existence. Plants change both in size and shape in their long drawn-out histories. The older they grow, the more they change, a fact so aptly illustrated in the Redwoods and Sequoias of California. Animals, too, from larvae to maturity pass through many an instar, ecdysis, molt or shedding. So also man. Let his life be full, well-rounded, and all throughout its length he changes in accordance with every sense impression he receives.

To quote a trite and outworn phrase, the twenty-fifth anniversary of Phi Sigma is "pregnant with possibilities". However, a shrewd appraisal of most human institutions, and their history, leads one to suspect that this coming convention may also be pregnant with many an impossibility.

To continue in the high hope of its founders, and to choose between the practical and possible, as opposed to the impractical and the impossible, will be the burden of this ninth national meeting.

The Agenda

The 1939-40 national meeting has before it a rather full program if the actions of the Denver meeting of the National Council in September is to be any criterion, and if the recommendations there made meet with any response.

Somewhat of an innovation was the appointment of committees of chapter officers to investigate some of the perennial problems affecting the society as a whole and make specific recommendations on them. These reports are bound to be of more than ordinary interest. So also will be the constitutional amendments which the council has proposed. Most important will be the choosing of national officers to succeed the present vice-chancellor and secretary. Dr. Melville H. Hatch and Dr. Arthur I. Ortenburger, in addition to their regular teaching and research activities at their home stations have been active in the interests of Phi Sigma over a period of many years. They have given unstintingly, without compensation, of their time and energy to the carrying out of the responsibilities of their national offices. To choose successors who will do as much, who will labor as faithfully, who will give

such unrequited service to the Phi Sigma Society, will be a serious problem.

Climaxing everything else on the National Meeting program will be the anniversary dinner, with the delegates, the national officers, the past incumbents in those positions, and the honorary members in attendance. Dr. Paul B. Sears, past National Chancellor, ecologist, and author of "Deserts on the March," and other important works on national conservation, will speak on "The Scientist as a Citizen".

All in all, the Ninth National Meeting at Columbus promises to be outstanding. It is surely not too much to hope that it will be fruitful of much good to the future of Phi Sigma.

Chapter Activities

From time to time there drift into the editorial office various publications from the various chapters. Sometimes it is a banquet program, from some installation or initiation. Again it may be some formal convocation or lecture of historical note. Then again, it may be an annual program of some chapter's prospective activities. Sometimes these are only mimeographed, sometimes they are elaborately printed,—but they all show a living, up and coming, interest in our science, and the chapter's contribution to it.

In this issue, hardly noticeable in its brevity, there is a short paragraph that opens up new possibilities for effective action by the chapters. This is Omega's account of their monthly radio hour on Station WNAD. While it is only thirty minutes long, (in radio parlance anything longer than 15 minutes is an "hour"), it is an unusual opportunity to contribute to the general education of the radio listening public, and on biological subjects that public is still often abysmally unlettered.

Speaking from an experience of some thirteen years in an institution which owns and operates two radio stations, your editor can testify that there are very few educational radio stations so overloaded with fresh and interesting program material that they will not relish and welcome a well organized program on a group of scientific subjects at least once a month if not more frequently.

Omega is to be commended for an original idea.

Speaking of Changes

We weren't. There are times, however, when a magazine is like a member of the opposite sex. Periodically, (and that's no pun!) the object of our solicitude needs a new ensemble, a hair-do, and a few of those deft touches here and there which every woman understands and every man appreciates.

This becomes all the more necessary when the wolves are howling outside your doors, when the janitor wants the rent, and the electric company threatens to put out your lights. Naturally then you begin to economize. The family council of war is held, and of all the problems up for discussion, the most personal one is how to keep the little lady presentable as reasonably as possible.

Well, without the wolves, the janitor or the electric company as a motive, something similar has been attempted in this twenty-first volume of THE BIOLOGIST. A material increase in printing space at no additional expense has been acquired by departing from the large type broad line pages of the past. Here typographical science came to our aid. Printing in eight point type on a ten point slug has been found to be the most legible of all, although quite impossible on our former style of page. Material

was therefore set according to the recommendations of typographical science, and in two columns. This nets us from one to two hundred extra words to a page. Another change came with the use of colored instead of white stock for the covers. Gone for the present are the changing colored inks. We shall change to cover stock instead. Nor should we omit the adoption of a very interesting script for headings and titles.

We hope you like these new economies, and extend our thanks to Mr. Milligan of the Kistler Company for his interest and his assistance.

Chapter News Letters

Beta
—University of Michigan

President—Karl Goellner, Museum of Zoology, Univ. of Mich., Ann Arbor, Mich.
Vice-President—J. W. Gebhard, Dept. Psychology, Univ. of Mich., Ann Arbor, Mich.
Secretary—Florence Muyskens, Dept. General Linguistics, Univ. of Mich., Ann Arbor, Mich.
Treasurer—Stephen S. White, Dept. Botany, Univ. of Mich., Ann Arbor, Mich.

Beta Chapter of Phi Sigma enjoyed an active and successful season in 1938-1939. In line with the previously expressed aim of this chapter, special efforts were made to encourage interest in biological research among undergraduate students in the University. A long-term program was formulated, involving the presentation of bi-monthly lectures by the heads of various departments concerned with biological studies. These lectures are to be concerned with subjects that will help to stimulate interest among undergraduates, in entering into advanced study and research in biological sciences. In the time at our disposal, it was possible to present only two lectures last season, but a full program is planned for this year. The first lecture, delivered by Prof. Bartlett, head of the department of Botany, was entitled "*Unfinished Business in Botany*". The lecture was delivered in the auditorium of the Rachham School of Graduate Studies, and was very well attended. Dr. H. B. Lewis, head of the Biological Chemistry department, spoke next on, "*Unfinished Business in Biological Chemistry*". The members of the chapter feel that both these excellent addresses set a fine precedent for the projected series, in helping many undergraduate students to realize just what problems are presenting themselves, to be solved by biologists of the future.

During the spring of 1939, recipients were selected for both the 1938 and 1939 *Phi Sigma Awards*. In each case, an outstanding senior of that year was chosen. For 1938, the award went to Ray Bentall, of the Department of Botany. For 1939, Reed Varner, of the Department of Forestry, received the honor. The students were chosen with the help of the heads of those departments which offer work for undergraduates. It would seem that this annual award will indeed become a valued prize, and as the custom of its presentation becomes established, it will furnish another opportunity for Phi Sigma to be of real service on every campus which has an active chapter.

At the second meeting of this season, Beta Chapter selected its delegate and alternate for the National Convention, to be held this December. Karl Lagler, of the University Museums, was chosen as delegate, and Kay Hussey, of the Zoology Department, as alternate. No decision has been reached on questions in which the chapter is to instruct its delegates, and this news letter will have to be sent without this information.

Members initiated into Beta Chapter during the past season include the following:

Leonard Allison, Mabel Allison, A. Kearney Atkinson, Frederick Barkalow, Gretchen Beardsley, Clifford Berg, David Bohr, Fred Bromund, Boleslaus Bujak, Lois Gillilan, Mabel Gleason, Frederick Goudie, Evelyn Hoke, Charles Hong, Merton Keel, Theodore Kramer, Manuel Levin, Florence Michlinski, Adeline Pierce, Marjorie Pierce, Betty Robertson, Beatrice Scheer, Lloyd Smith, Robert Trimby, Bruno Vassel, Gregorio Velasquez, Stephen White, Winifred White, Joseph Warzniak, Dr. Corwin R. Wright, Ned Arbury, Robert Ashe, Frances Binkley, James Brown, Marguerite Cornell, Roy Elmgren, Olivia Embry, Martin Erickson, Robert Farrington, George Gens, John George, Richard Gerstell, Vivian Heide, Bert Haltby, Arthur Jones, William Jones-Burdick, James Klee, Robert Kleemeier, Archie McAlpin, Rich-

ard Manville, Andrew Ormsby, Martha Orr, Jose Santos, Sam Singal, Charles Spooner, Erich Steiner, James Tang, Reed Varner, Limas Wall, Tom Wilder, Su-Hsuen Wu, Frances Wynne.

Of especial interest was the initiation of two honorary members, Dr. Elizabeth Crosby, Professor of Anatomy, and Dr. Reuben Kahn, Professor of Bacteriology. The distinction which each of these individuals has won on an international scale, makes Beta Chapter feel indeed fortunate to have been privileged to offer them honorary memberships in the society.

Officers elected for the 1939-1940 season were as follows: President—Karl Goellner; Vice President—Jack Gebhard; Secretary—Florence Muyskens; Treasurer—Stephen White.

During the summer, Jack Gebhart accepted an appointment at the University of Maine, and was thus forced to vacate the office of vice-president. At the first meeting this fall, Robert B. Lindberg was elected to fill the office.

A program for the coming year has been prepared, including many talks by faculty members from a variety of departments. Beta Chapter looks forward to a busy season in 1939-1940.

ROBERT B. LINDBERG,
Vice-President.

Epsilon
—University of Denver

President—William Cormack, 2479 Sheridan Blvd., Denver, Colorado.
Vice-President—David Kramish, 1255 Emerson, Denver, Colorado.
Secretary—Esther Jane Wood, 2001 So. Clayton, Denver, Colorado.
Treasurer—Eleanor Knight, 376 So. Curtis, Littleton, Colorado.

Epsilon Chapter held four meetings during the spring quarter.

Among these was one open meeting, two regular meetings, and an initiation.

David Howard and Stanley Koziara were pledged in April. Each presented interesting research papers, namely "The Antiquity Of Man In America", by David Howard, and "The Weed Menace", by Stanley Koziara. Formal initiation was held for these pledges on May twenty-fourth.

We were very happy last spring to present the Phi Sigma Award to Helen Dowling for outstanding work in the field of Geology.

This fall we have had one meeting at the home of Dr. Becker, at which time William Cormack was chosen as our representative for the National Meeting to be held in December. David Kramish was elected vice-president of our chapter at that meeting.

The first of November is the date set for an open meeting. We are very fortunate to have Mr. Niedrach of the Colorado Museum of Natural History who will speak on "Wild Life In Colorado". His lecture will be illustrated by motion pictures which he has taken himself. A large number is expected to attend.

At the following meeting we are looking forward to the pledging of new members.

Our chapter delegate will be William Cormack. We have no proposals to offer. We nominate for Vice-Chancellor: Melville H. Hatch; and for Secretary: Dr. Theodore W. Torrey, University of Indiana.

ESTHER JANE WOOD,
Secretary.

Zeta
—University of Wisconsin

President—David G. Frey, Biology Bldg., Univ. Wis.
Vice-President—Marcus I. Wegner, Biochemistry Bldg.
Recording Secretary—M. Alan Sprague, Agronomy Bldg.
Program Secretary—Russell B. Stevens, Biology Bldg.
Treasurer—Irvin Fuhr, Biochemistry Bldg.
Editor—Robert H. Burris, Agricultural Hall.

Initiation was held at the spring banquet over which Dr. K. P. Link presided as a rollicking toastmaster. Following initiation of new members and installation of officers by Dr. L. E. Noland, Dr. N. C. Fassett was cleverly introduced as the speaker of the evening by Dr. B. M. Duggar. Botanist Fassett's address on "Bogs" was well illustrated with colored lantern slides. He spoke on the nature, history, development and methods of study of

bogs, showed how they could be used to trace prairie successions in Central Wisconsin, and pointed out that in spite of all the water, the bog is inhabited by plants with xerophytic characters.

The following new members were admitted to Zeta Chapter May 17, 1939:

W. T. Atkinson, K. C. Berger, W. C. Brodhagen, T. W. Burnham, A. I. Coombes, P. G. Hogg, P. H. Hornburg, R. Hutton, H. P. Jacobi, C. M. Kirkpatrick, C. E. Krewson, P. R. Ozanne H. D. Roberts, A. W. Roecker, H. Schwerma, E. E. Selkurt, R. T. Stevenson, E. L. Stone, E. Warner, D. W. Watson.

At the first open meeting of the fall season this year Zeta Chapter welcomed Dr. H. W. Mossman of the Anatomy Department who presented numerous colored slides of his travels through Europe this past year, while he was continuing his studies on comparative placentation among the mammals. On October 26 Dr. A. D. Hasler of the Zoology Department addressed the group concerning the limnological and fisheries research in progress at Crater Lake, Oregon, where Dr. Hasler served as ranger naturalist for two seasons. Crater Lake, the deepest lake in the Western hemisphere, has been investigated mainly by Wisconsin biologists. Dr. Hasler summarized some of the outstanding facts on the limnology and fish production of the lake.

At the last business meeting Zeta Chapter decided to support or propose the following items of business at the 25th anniversary convention of the society at Columbus, Ohio:

1. Support of the proposal by the national council to elect Dr. L. J. Cole to the honorary office of national president. Dr. Cole, the present head of the Genetics Department at the University of Wisconsin, should need little introduction to anyone, as his excellent research in several fields and his sterling character are known to many.
2. Support of the amendment to Section 1a of the By-laws proposed by the national council to do away with the dollar for the endowment fund, collected from those new members who do not purchase a Phi Sigma key at the time of initiation.
3. Support of the constitutional amendment proposed by the national council to change the wording of the requirements for membership eligibility (Article IV, Section 2) to "Any person . . . who has shown special ability for research work or has a general grade average of B or higher." The majority of the Chapter feels that although actual research in biological science should be stressed as a requirement for membership, yet the continued activity of some of the smaller chapters already in the organization should not be threatened.
4. Support of any action to make THE BIOLOGIST as nearly self-supporting as possible, so that the general academic assessment of $2 per member per year, the collection of which was temporarily cancelled in 1937 for a period of two years, may be reduced as low as possible or permanently abolished if the financial report of THE BIOLOGIST shows this feasible.
5. Propose that if the national secretary has on file the names of all persons who have been admitted to membership in Phi Sigma since its inception, a national directory be published listing the members by chapters and by year of initiation; and that from this year henceforth THE BIOLOGIST shall publish a complete list of the active members of each chapter in its last issue in the spring. That if the national secretary no longer has these data, THE BIOLOGIST shall publish in its last issue this year a list of all the active, alumni, faculty, and honorary members for each chapter; but that in the years following shall publish a list only of the active members of the year.
6. Propose candidates for the national offices of vice-chancellor and secretary. At present Zeta Chapter does not have its nominations ready.

Zeta Chapter elected David G. Frey as its delegate to the national convention, and Robert H. Burris as the alternate.

Robert H. Burris,
Editor.

Eta
—University of Akron

President—Bill J. Barkley, Department of Biology, Univ. of Akron.
Vice President & Treasurer—Robert C. Hare, Dept. of Biology, University of Akron.
Secretary—Aubrey Allman, Dept. of Biology, University of Akron.

At the October open meeting, Mr. Joseph Hershkowitz presented an excerpt from his Bachelor's thesis, "Studies on the Sirena, Including Especially the Osteology of *Trichechus manatus*". Mr. Hershkowitz is, at present, Graduate Assistant in Zoology at the University of Akron. Reports were also given by Mr. William Baird on "Medicine in the Last Sixty Days", and one by Mr. Ray Barrett on "The Genetic Implications of the Dionne Quintuplets".

Fred H. Glenny recently submitted his thesis, "The Specificity of Lenticel Characteristics in the Oaks", to the Faculty of the Buchtel College of Arts, in partial fulfillment to the requirements of the degree of Master of Science. The Ohio Journal of Science, Vol. 39, No. 2, March 1939 carried an article by Mr. Glenny entitled "An Anomalous Artery in the Kingfisher (Ceryle alcyon)".

Candidates George Twickler, Ray Barrett, William Baird, George Anastos and Joseph Hershkowitz were initiated into Eta Chapter of Phi Sigma, on November 19th.

B. J. Barkley, President of Eta Chapter, will represent the chapter as its delegate to the national convention. He will present a paper entitled "A Diatom Survey of the Ohio Canal and Hower Lake, near Akron, Ohio". Fred H. Glenny will present two papers: one entitled "A Functional Left Aortic Arch in the Kingfisher (Ceryle alcyon)" and the other "A Preliminary Report on the Specificity of Lenticel Characteristics in the Oaks".

Aubrey Allman,
Chapter Secretary.

Kappa
—University of Kansas

President—Robert Lommasson, 404 Snow Hall, Univ. of Kansas, Lawrence, Kansas.
Vice-President—Clarence Brumback, 116 W. 17th, Univ. of Kansas, Lawrence, Kansas.
Secretary—Gerald Pees, 22 F. S., Univ. of Kansas, Lawrence, Kansas.
Treasurer—James Sprague, 216 Snow Hall, Univ. of Kansas, Lawrence, Kansas.

Edgar Beahm has resigned as president of the Kappa Chapter of Phi Sigma Society. This action was brought about by his transfer from the bacteriology department of the University of Kansas to the School of Medicine of Creighton University. At a special meeting a short time ago the chapter elected Robert Lommasson as president to succeed Mr. Beahm for the remainder of the term. Mr. Lommasson's address is 404 Snow Hall, University of Kansas, Lawrence, Kansas.

On November the second, Kappa Chapter held the annual Fall Initiation Banquet. The guest speaker was Dr. Royal N. Chapman, Dean of Graduate School, University of Minnesota. The following new members were initiated:

Department of Zoology—Frank Victor Kalich.

Department of Entomology—Eugene Ellis Kenaga, Louis Corneilus Kuitert, Isabelle Baird, Louis John Lipovsky, Tyson Harvey Mailen.

Department of Bacteriology—Harold Jay Smolin.

Department of Botany—Curtis V. Packard, Leo Herbert Franklin.

Department of Geology (Paleontology)—Russell MacGregor Jeffords.

Department of Psychology — Leo Aloysius Hellmer, Herbert Haynes Humphreys.

Mr. Max D. Wheatley will be the Kappa Chapter delegate to the National Meeting of Phi Sigma in Columbus, Ohio.

Gerald B. Pees,
Secretary.

Lambda
—University of Montana

President—Martha E. Jenkins, Univ. of Montana, Missoula.
Vice-President—Oliver A. Roholt, Jr., 340 University Ave., Missoula, Montana.
Secretary—George Weisel, Jr., 441 Daly

Ave., Missoula, Montana.
Treasurer—James Wilt, Corbin Hall, Missoula, Montana.

Three regular meetings have been held since the beginning of the school year. The first two were devoted to the immediate business on hand. At the third meeting one of our members, Mary B. Clapp gave a lecture on "The Peck Order in Sparrows", one of her research problems.

Oliver Roholt was elected by the chapter to serve as delegate to the National Meeting. Nominee for National Vice-Chancellor was Dr. Fred A. Barkley, a member of this chapter. Nominee for National Secretary was A. I. Ortenburger, the present National Secretary.

GEORGE WEISEL.
Secretary.

Mu
—University of California

President—Robert D. Ray, 1107 Calusa Ave., Berkeley, Calif.
Vice-President—Werner Braun, 1828 Delaware St., Berkeley, Calif.
Treasurer—Angela Capobianco, 65 Culebra Terrace, San Francisco, Calif.
Secretary—Louise F. Lorenz, 3036 Hillegass Ave., Berkeley, Calif.

Mu Chapter is getting more and more anxious about this initiation fee problem. We are now in the place where we feel very truly crippled due to so many of the University's outstanding biologists being unable to join the chapter. We feel that whereas we have a body and at least elements of a head, we have no limbs with which to go anyplace.

We are basing our hopes on this year's National Meeting. Some solution must be found for Mu Chapter or we will either drift on as a minor honor society at U. C. or we will have to find some local solution by which to bring in the students we want and need. We have numbers, yes; but we seem not to have numbers of the type of student which is needed to make ours a really vital chapter.

We are sending a letter to all the chapters because we feel a direct appeal will be stronger than an indirect one through this news-letter. This problem is not only very important to us, but is, without a doubt, important to other chapters, as well.

As for this semester's news; our initiation is over for this Fall. Fourteen of the forty invited have joined, and they are: Botany—E. Yale Dawson, Catherine Roberts; Entomology—James F. Ashley, Peggy Brainard, Bernard Brookman, Thomas K. Kelley; Forestry—Edward C. Stone; Genetics—John E. Anderson, Abdel-Halim Ali El-Tobgy; Paleontology—Pierina Rossello; Psychology—Helen Barker, Fred F. Beckert, Fred M. Geier; Zoology—Donald F. Hoffmeister. After our ceremony, Dr. H. L. Mason spoke on "Floristic Evolution as a Factor in the Development of the California Flora". At this meeting, we also chose Robert Ray, president, as delegate to the National Meeting and Werner Braun, vice-president, as alternate.

This Fall we have tried a new type of meeting which we feel is quite successful. We have been having dinner meetings, but feeling they were too formal and too expensive, we thought of an informal gathering at the home of some faculty member. This has proved very stimulating. The simple refreshments prepared by some of the girls have proved less expensive, as well. Our first meeting of the semester was of this kind. We met in the lovely home of Dr. E. B. Babcock, Chairman of the Division of Genetics. Dr. W. E. Castle, Professor Emeritus of Harvard University and Dr. L. W. Taylor, Chairman of our Poultry Husbandry Division were our guests, and they led the group in a discussion of the problems confronting geneticists today.

November 15, we are trying another of these meetings for which Dr. J. D. Olmsted, Chairman of the Division of Physiology has kindly offered his home. Dr. C. D. Leake, Professor of Pharmacology and Dr. P. L. Kirk, Assistant Professor of Biochemistry will be our guests; Dr. Leake will discuss the relations of chemistry to physiology, and Dr. Kirk will talk about physiology as applied to criminology. This promises to be a very stimulating meeting, also.

The last meeting of the semester will be another dinner meeting with Dr. R. W. Chaney of Paleontology as guest. He is always a popular

speaker and will talk to us on "The Far Eastern Question in the Past".

Plans for our usual exchange seminars with Stanford University are getting under way again, for this year.

LOUISE F. LORENZ,
Secretary.

Nu
—Washington and Jefferson College

President—Walter Kasserman, Lambda Chi Alpha, Washington, Pa.
Vice-President—Ned Douscher, Phi Kappa Psi, Washington, Pa.
Secretary—Donald Rose, Lambda Chi Alpha, Washington, Pa.
Treasurer—Herbert Grether, 34 S. Lincoln St., Washington, Pa.

Nu Chapter of Phi Sigma Society carried on an active program last spring. The chapter sponsored an "open house" to better acquaint our students with the facilities and equipment of the Biology Department. The annual spring banquet was held at the Y. W. C. A. Dr. Avinoff, Curator of Carnegie Museum in Pittsburgh was the principal speaker. Four men were initiated: John W. Davis, '39; Kenneth M. Mason, '39; James E. Miller, '39; and Curtis E. Sterner, '40. An Arey's "Developmental Anatomy" was presented to the school by the chapter.

A varied and extensive program is being planned for the coming school year.

Our fall initiation was held October thirty-first at which ten men were initiated. These men were initiated: Alan Fawcett, Dorwin Gillespie, Mr. Hufschmitt, George Kiebler, Raymond Lockwood, Charles McClanathan, William McFarland, William Schmidley, Arthur Llewelyn and Wallace McCune. Dr. E. A. Wolf, professor of physiology at the University of Pittsburgh, gave a very interesting talk on "Respiration the Most Fundamental Physiological Function".

Walter Kasserman will represent Nu Chapter at the National Meeting at Columbus. Nu Chapter has no nominees for National Vice-Chancellor or National Secretary.

DONALD ROSE,
Secretary.

Pi
—Emory University

President—Charles Uhl, Sigma Chi House, Emory University, Ga.
Vice-President — Frances McCalla, Agnes Scott College, Decatur, Ga.
Secretary—Jeanne Matthews, 61 Barksdale Drive, Atlanta, Ga.
Treasurer—Dr. H. M. Phillips, 2080 Decatur Road, Apt. M, Atlanta, Ga.

Pi Chapter has had two meetings this fall. The first was a business meeting at which the following officers were elected: President, Charles Uhl; Vice-President, Frances McCalla; Secretary, Jeanne Matthews; Treasurer, Howard M. Phillips.

Our second meeting was a social one at which we entertained the Biology concentration students and Faculty of Emory University and Agnes Scott College. Our object was to acquaint the concentration students with Phi Sigma.

Election of new members and convention delegates is to take place at once.

JEANNE MATTHEWS.
Secretary.

Rho
—University of Illinois

President—Margaret Kaeiser, 208 Entomology Bldg., Urbana, Illinois.
Vice-President—Victor Sprague, 301 Natural History Bldg., Urbana.
Secretary—Jane Claire Dirks, 203 Vivarium, Champaign.
Treasurer—Thomas Lord, 365d Chemistry Bldg., Urbana.

The spring initiation dinner of the Rho Chapter was held on May 24, 1939, at the University Club. Dr. L. A. Adams of the Zoology Department officiated as toastmaster, and Dr. Oswald Tippo of the Botany Department gave an illustrated address entitled "Botanizing in Cuba". Informal entertainment followed, with Mr. Dominic Scappucci of the Cincinnati Conservatory of Music entertaining the group with violin music. The following were initiated.

Zoology, Faculty—Dr. Lester Ingle.
Bacteriology—Joseph O. Alberts, Edward N. Gilman, Russell A. Kaberg, Charles J. Rickher, Don M. Snyder,

Fred W. Tanner, Jr., Charles M. Wilson.

Botany—Mary J. Cox, Thelma L. Grumbles, Geraldine M. Moon, Marion I. Nielsen.

Zoology—Harry W. Cummings, Jr., June R. Geller, C. Clayton Hoff, Marian F. James, Ralph D. Lowell, Russell R. McKean, Wm. E. Morris, Karl R. Pomrenke, Gustavus B. Stewart, Bertrand A. Wright.

At the first meeting of the fall semester of the school year, Dr. George N. Jones of the Botany Department gave an informal address on Methods and Materials in Systematic Botany. Representatives of the chapter to the national convention were elected—Jane Claire Dirks, delegate; Thomas Lord, alternate.

Rho Chapter of Phi Sigma Society has voted to request the National Convention to consider the waiving of the General Academic Assessment (Bylaws Section 2) for an additional period of two years (1940-41 and 1941-42). This will, in effect, be an extension of the time period set by the Indianapolis convention in 1937. Rho Chapter feels that it is imperative at this time to continue increasing her active membership but even more important to insure attendance and active participation by all of her present active members. There are at the University of Illinois a number of graduate organizations of scientific nature. While none of these entirely meets the need filled by Phi Sigma, they do introduce keen competition, and Rho Chapter is finding it a real problem to overcome this competition when prospective members are informed of the annual $2.00 General Academic Assessment in addition to the $8.00 initiation fee which many consider exorbitant. For these reasons Rho Chapter is recommending this method of reducing membership fees temporarily. Any permanent reduction of fees would also be sanctioned by Rho Chapter.

JANE CLAIRE DIRKS,
Secretary.

The exact wording of Rho's proposal is given below for the consideration of the chapters.—EDITOR.

The members of Rho Chapter have felt for some time that the national dues of Phi Sigma are somewhat high. Accordingly, at the last business meeting the chapter empowered the Executive Committee to draw up a statement regarding this matter to be presented at the national meeting. The following statement is the result: "Rho Chapter of Phi Sigma Society has voted to request the National Convention to consider the waiving of the General Academic Assessment (Bylaws) Section 2 for an additional period of two years (1940-41 and 1941-42). This will, in effect, be an extension of the time period set by the Indianapolis convention in 1937. Rho chapter feels that it is imperative at this time to continue increasing her active membership but even more important to insure attendance and active participation by all of her present active members. There are at the University of Illinois a number of graduate organizations of scientific nature. While none of these entirely meets the need filled by Phi Sigma, they do introduce keen competition, and Rho Chapter is finding it a real problem to over-come this competition when prospective members are informed of the annual $2.00 General Academic Assessment in addition to the $8.00 initiation fee which many consider exorbitant. For these reasons Rho Chapter is recommending this method of reducing membership fees temporarily. Any permanent reduction of fees would also be sanctioned by Rho Chapter."

Sigma
—University of Florida

President — Lewis Marchand, University Station, Gainesville, Fla.
Vice-President — Kenneth Swinford, School Forestry, University of Fla., Gainesville, Fla.
Secretary — Wilber DeVall, School Forestry, University of Fla., Gainesville, Fla.
Treasurer—Coleman Goin, Dept. of Biology, University of Fla., Gainesville, Fla.

Sigma Chapter had as its distinguished speaker for October, Mr. John Lynch, Associate Biologist with the Biological Survey, who spoke on, "Some Phases of Marsh Management of Waterfowl". His talk portrayed the work that is being done by the Survey to increase the number of water-

fowl and waterfowl habitats in the Delta region of Louisiana.

The Chapter has adopted the policy of having, in addition to the regular monthly meeting, a bi-monthly meeting to be held out-of-doors at various places of interest to its members. Sigma Chapter feels proud to be able to hold this out-door meeting every month, as the Florida climate is inviting to such a gathering. On October 13th, the Chapter held its first out-door meeting on the Austin Cary Memorial Forest with a marshmallow roast and Dr. E. A. Ziegler, Professor of Forest Economics at the University of Florida, as its guest speaker. Dr. Ziegler's travel talk covered some of the interesting and trying times in the life of a "tenderfoot" forester during the early days of what is now the United States Forest Service.

Sigma Chapter has elected Nelson Marshall, of the Department of Biology at the University of Florida, as its representative to the National Meeting in December.

W. B. DeVall,
Chapter Secretary.

Tau
—Duke University

President—Nelle Causey Bevel, Zoology Dept., Duke University, Durham, N. C.
Vice-President—Helen Ramsey, Zoology Dept., Duke University, Durham, N. C.
Secretary—Mary Humphreys, Botany Dept., Duke University, Durham, N. C.
Treasurer—Mary Wolf, Zoology Dept., Duke University, Durham, N. C.

Dr. James A. Beal, Professor of Forest Entomology, School of Forestry, Duke U., addressed the Tau Chapter of Phi Sigma, Oct. 24, 1939, on "The Relation of Insects to Forest Conservation".

This chapter's official delegate to the 1939 National Meeting will be Miss Helen Ramsey. We have no proposals or nominees to offer yet.

Nelle Bevel Causey.

Upsilon
—Miami University

President—Russel Hay, Phi Kappa Tau House, Oxford, Ohio.
Vice-President — David Siehl, 204 Ogden Hall, Oxford, Ohio.
Secretary—Eunice Schauer, 44 Bishop Hall, Oxford, Ohio.
Cor. Secretary—Ernest Sons, 112 N. Campus Ave., Oxford, Ohio.
Treasurer—Ole Davis, 218 N. Campus Ave., Oxford, Ohio.
Advisor—P. S. Crowell, Tallawanda Apts., Oxford, Ohio.

The Chapter has adopted a new plan of accepting new members. At the last meeting it was decided that the Chapter should associate the eligible members for the first semester and then formally initiate them in March of 1940.

At our last meeting, Dr. Williams of the Zoology Department, spoke on the "Transition of the Hunter to a Herdsman in Turkestan". The Chapter is planning to have programs in which the members may participate. Plans are being made to have off-campus speakers also.

The Phi Sigma Scholarship Award for excellence in Biology was presented to Delmar Fread. Raymond Cronwell was awarded the Chapter prize of $5.00 for outstanding work in Biology. Awards will be made again in June, 1940.

Ernest Sons,
Corresponding Secretary.

Phi
—University of New Hampshire

President—Dr. Stuart Dunn.
Vice-President—Philip Conture.
Treasurer—Joseph Stone.
Recording Secretary—Louisa Stuart.
Corresponding Secretary — Eleanor Sheehan, 39 Main St., Durham, N. H.

Phi Chapter of Phi Sigma meet for roll call on October 4. Members told of their activities during the summer months. President Dunn showed colored lantern slides of his trip to the west coast. Dr. William Smith illustrated his talk on his summer's work on blueberries with colored slides. Professor C. F. Jackson told of a collecting trip for small mammals made to the Gaspé with three

other Phi Chapter members: Erma Andrews, W. Robert Eadie, and Herbert W. Jackson.

Several members had been at the University of New Hampshire Marine Laboratory at the Isles of Shoals where Dr. Harley J. Van Cleave (Rho) of Illinois taught Invertebrate Zoology. Phi Chapter held its twelfth annual reunion at the Shoals this summer. As usual Triton was good —the weather was beautiful; the clams and lobsters juicy and abundant; although the moon was dark a spectacular display of northern lights played in the sky.

On October 18th the following members were elected: Erma Andrews, James Beattie, John Chadwick, Frederick Garland, Eleanor Hillier, Martha Holt, William Jahoda, William Johnson, William Keach, Jack Kirk, Patricia MacMartin, Michael Piecewicz, Maurice Provost, Archibald Ramage, Paul Shaw, Richard Snowman, Francis Spellman, Josephine Taub, Raymond Wood, and Patrick Fitzgerald.

A pledging trip was held on the week end of October 21st. We camped in Franconia Notch in the New Hampshire Outing Club cabin and on Sunday climbed a spur of Cannon Mountain and held pledging by Lonesome Lake. A heavy rain failed to dampen the spirits although Monday morning found even the youngest pledge with creaking joints. Initiation and a banquet will be held on November 8th.

The program committee is outlining a splendid program for the year including papers by members, outside speakers, and at least one open meeting.

This year meetings are being held in Nesmith Hall. Nesmith formerly a small building has been enlarged to four times its original size and now houses all of the biological departments—Agronomy, Animal Husbandry, Botany, Entomology, Forestry, Horticulture, and Zoology. Professor C. Floyd Jackson, formerly Dean of the College of Liberal Arts and a loyal Phi Sigma, is director of the newly formed Biological Institute. It is felt that closer association of the departments will bring a better integrated program of work.

Chapter delegate: Not definitely decided.

Phi Chapter offers no special proposals for the National Meeting.

Phi Chapter renominates Melville Hatch for Vice-Chancellor and A. I. Ortenburger for National Secretary, feeling that these present officers have served Phi Sigma well.

ELEANOR L. SHEEHAN,
Corresponding Secretary.

Chi
—Montana State College

President—Albert Mihelic, Entomology Dept., Montana State College, Bozeman, Mont.
Vice-President—Marvin Kelley, Botany and Bacty. Dept., Montana State College, Bozeman, Mont.
Secretary—Daisy Flick, Botany and Bacty. Dept., Montana State College, Bozeman, Mont.

The first regular fall meeting of Chi Chapter of Phi Sigma was called to order by Vice-President Marvin Kelley at the noon hour on November 2. Across the lunch table important business was transacted.

A tentative program for the quarter was planned. The members decided to present an educational movie once a month free for anyone on the campus. Several of the faculty members expressed a desire to know the biology students better so a committee composed of Elizabeth Carter, Daisy Flick and Jack Welch was chosen to investigate the possibilities of holding a social gathering some evening in the biology building for all students on the campus who are majors in the field of biology.

Marvin Kelley was named the chapter delegate to the National Convention. Jack Welch was chosen as his alternate. Mr. Kelley is a graduate in Botany from Washington State College and is studying for his masters degree at Montana State College.

The officers of the chapter at Montana State College are as follows: President, Albert Mihelic; Vice-President, Marvin Kelley; Secretary-Treasurer, Daisy Flick. At the present time there are six student initiates and nine pledges. Initiation for the pledges will be held December 7.

DAISY FLICK,
Secretary.

Psi
—University of Washington

President—John Ellegood.
Vice-President—V. Roland Rethke.
Secretary—Eloise Kuntz.
Treasurer—John Bryce Glud.

Phi Sigma Scholarship medal was presented to John Bryce Glud for excellence in biological work. The presentation was made by Dr. Hatch at the May meeting.

Responsibility for the programs of the meetings for this year has been given to committees in each of the various colleges and departments represented in Phi Sigma.

Eloise Kuntz was elected secretary to take the place of Ruth Coats who resigned.

Recent Initiates: Rosalie Breuer, Harold Eugene Broadbrooks, David Vance McCallister, Orville H. Miller, Herbert Park Riley, Jose V. Yapchiongoo. Dr. Rigg welcomed these initiates into Phi Sigma.

Chapter Delegate to the convention: Joe Goodman; Alternate: Marve Weir Kay.

Nomination for National Vice-Chancellor: Dr. M. H. Hatch, University of Washington.

Nomination for National Secretary: Dr. A. I. Ortenburger, University of Oklahoma.

Eloise Kuntz,
Secretary.

Omega
—University of Oklahoma

President — Elaine Walker, Zoology Dept., Univ. Okla., Norman, Okla.
Vice-President — Robert E. Kuntz, Zoology Dept., Univ. Okla., Norman, Okla.
Secretary — Martha Flowers, Botany Dept., Univ. Okla., Norman, Okla.
Treasurer—Paul Smith, Botany Dept., Univ. Okla., Norman, Okla.

Upon vote of the society it was decided to hold a meeting the first Wednesday of each month, 7:30 p. m., 211 Biology Building. At this time all business is settled, and a program of scientific interest is presented. Our "coffee hour" has proved so popular that it is now a part of each monthly meeting.

At the October fourth meeting Mr. William Felkner, Mr. Paul F. Smith, Dr. O. J. Eigsti, Dr. H. L. Chance, and Mr. T. J. Walker took part in a program telling of their experiences in biological camps and laboratories this past summer. Mr. Walker showed a series of slides taken at Woods Hole, Massachusetts, and in New York City.

On Friday, October 13, the society entertained graduates new in zoology and botany departments with a steak-fry. Forty members and guests were present. Songs were sung around the camp-fire and then everyone joined in a square-dance.

Omega Chapter is making a name for itself on the Oklahoma University campus with broadcasts over WNAD, the campus radio station. On October 17 the program of summer camp and laboratory experiences was repeated. On October 25 Dr. A. I. Ortenburger presented a thirty-minute broadcast discussing the University of Oklahoma zoological museum. Omega Chapter is to present at least one program a month over WNAD.

We wish to announce Miss R. Elaine Walker as Omega's delegate for the anniversary meeting in Columbus, Ohio, and Mr. Paul F. Smith as alternate.

It is the desire of Omega Chapter of Phi Sigma to nominate Dr. A. I. Ortenburger as national secretary for another term. A motion passed to this effect at a meeting November first.

Martha Flowers,
Secretary.

Alpha Beta
—Mount Union College

President—Gene Austin, R. R. No. 2, Alliance, Ohio.
Vice-President—Dorothy Ayers, 141 Simpson St., Alliance, Ohio.
Treasurer — Evelyn Warther, Elliott Hall, Alliance, Ohio.
Secretary — Donald Bauman, Miller Hall, Alliance, Ohio.
Corresponding Secretary — Mary Stephens, 536 W. State St., Alliance, Ohio.

Recent initiates are: Betty Brown, Robert Dew, Richard McConnor, Mary Catherine Pappenhagen, Alice Shoemaker, Merciel Smith, Richard Wilson.

Chapter delegate for National Convention: Gene Austin.

Alpha Beta had made plans to sponsor a tea for Dr. Robert W. Hegner, world famous biologist, on Founders' Day, October 18, at which time Mount Union College was to present him an honorary degree. A very serious illness made it impossible for him to come to the college at that time; therefore, the plans were discontinued.

MISS MARY STEPHENS.
Corresponding Secretary.

Alpha Epsilon
—University of Pittsburgh

President — Philip Walker, Biology Dept., University of Pittsburgh, Pittsburgh, Penn.
Vice-President — William Charlesworth, Biology Dept., University of Pittsburgh, Pittsburgh, Penn.
Secretary—Dr. Edna Higbee, Biology Dept., University of Pittsburgh, Pittsburgh, Penn.
Treasurer — Olga Catizone, Biology Dept., University of Pittsburgh, Pittsburgh, Penn.
Rec. Secretary — Helen Worthing, Biology Dept., University of Pittsburgh, Pittsburgh, Penn.

Members of Alpha Epsilon Chapter are looking forward to the coming meetings to be held at Columbus during the Christmas holidays. Since they are so near to Pittsburgh we are hoping that we can bring more members along so that they may become acquainted with our National Officers.

This year our chapter has added a new social event to our calendar of events. The chapter is taking a conducted tour of the "Mum Show" being held at Phipps Conservatory, Schenley Park. Several of our members are responsible for this show and this fact makes the trip have an added zest.

Our program for the initiation this year will consist of a demonstration at the new Buhl Planatarium. If any Phi Sigma members from other chapters are in the city at the time of this program (March 8, 1940) we will be very happy to have them come and take part in the entire program which includes a banquet in the Boggs and Buhl Dining Room.

Miss Annabell Broomall, one of our members was appointed to a teaching position at Lake Erie College, Painesville, Ohio.

Mr. William Charlesworth has been employed by the City of Pittsburgh to be a Junior Horticulturist at Phipps Conservatory.

Dr. Herbert McCullough, who received his Ph. D. degree last June is connected with the North Braddock Junior College, North Braddock, Penna.

Dr. R. Dale Smith, who received his Ph. D. degree last June has been made an instructor at Gonzaga University, Spokane, Washington.

Dr. William Starkey, last year's president, is a Research Assistant at Allegheny General Hospital. He is also doing some part-time teaching at Duquesne University, Pittsburgh.

Miss Helen Worthing has been made a Research Assistant to the Biological division of the Buhl Research Project of the Chemistry Department, of the University of Pittsburgh.

Mr. Earl Scott and Mr. Richard Darsie have been made Graduate Assistants in the Biology Department, University of Pittsburgh.

I am hoping to attend the meetings in Columbus and hope to renew our acquaintance started at the meetings in Indianapolis two years ago.

EDNA HIGBEE,
Corresponding Secretary.

Alpha Eta
—Oklahoma A. & M. College

President—Harold Winters, 315 Hanner Hall, Oklahoma A. & M. College, Stillwater, Okla.
Treasurer—Stephen Butler, 323 Hanner Hall.
Vice-President—Alexander Wiederkehr, 912 West 6th.
Secretary—Jo Ann Pronine, 402 Elm.

Alpha Eta Chapter of Phi Sigma at a recent meeting decided to send William Hill, graduate student in zoology, to represent it at the National Meeting in December. Mr. Hill is submitting a paper for consideration.

This chapter would like to nominate Messrs. Hatch and Ortenburger for re-election.

HAROLD WINTERS,
President.

Alpha Theta
—State College of Washington

President — Sidney C. Beinke, 403 Campus Ave., Pullman, Wash.
Vice-President—Phillip J. Pfarr, 1828 C. St., Pullman, Wash.
Secretary — LaVerne Brugger, 1505 Maple, Pullman, Wash.
Treasurer—Elwood B. Fryer, 510 Morton, Pullman, Wash.

Delegate and alternate to the National Convention: Delegate, Sidney C. Beinke; Alternate, LaVerne Brugger.

Alpha Theta of Phi Sigma will sponsor lectures by the college faculty and students which will be open to the general public. This program is a change in policy from the programs sponsored last year, which consisted mainly of motion picture showings of film principally in the field of biological sciences.

LaVerne Brugger,
Secretary.

Alpha Iota
—Bucknell University

President — Richard Snyder, Sigma Chi House, Lewisburg, Pa.
Vice-President—Cornelius Roughgarden, N. 6 St., Lewisburg, Pa.
Secretary — Naomi Heritage, Ziegler Infirmary, Lewisburg, Pa.
Treasurer—Barbara Ludwig, Women's College, Lewisburg, Pa.

Fall outing is planned for Friday afternoon, Nov. 3.

Next speaker on the campus will probably be Dr. Leonard Bush, Assistant Surgeon from Geisinger Memorial Hospital, Danville, Pa.

Delegate—Richard Snyder, '40; Alternate—Janet Clayton, '41.

N. Heritage,
Secretary.

Alpha Kappa
—Hunter College

President — Mildred Maisler, 1665 Townsend Ave., Bronx, New York City.
Vice-President — Sophie Berck, 1521 Fulton Ave., Bronx, New York City.
Secretary—Mildred Spector, 1871 Harrison Ave., Bronx, New York City.
Treasurer—Edith Meyer, 531 E. 78th St., New York City.

On June 23, 1939, Alpha Kappa held its semi-annual initiation dinner at the Hotel Wellington in New York City. Dr. Libby Hyman of the Museum of Natural History, served as guest speaker and addressed us on her recent work with Invertebrate forms.

The following new members were initiated:

Miss Ruth Bierenbaum, Miss Mildred Broad, Miss Celia Dubnick, Miss Sylvia Dubnick, Miss Rose Feier, Miss Frances M. Gerson, Miss Helen J. Kalinsky, Miss Alice E. Lehmuth, Miss Lluewella Pritchard, Miss Shirley R. Rabinowitch, Miss Shirley Rubin, Miss Helen Schilsky, Miss Ethel Schneck, Miss Vivian Sweibel, Miss Lillian White, Miss Judith Widoff.

The following new officers were elected:

Miss Mildred Maisler, President; Miss Sophie Berck, Vice-President; Miss Mildred Spector, Secretary; Miss Edith Meyer, Treasurer.

Miss Mildred Spector has been elected as chapter delegate to the anniversary meeting of Phi Sigma in Columbus, Ohio, with Miss Gertrude Silberman attending as alternate.

Mildred Spector,
Chapter Secretary.

Alpha Lambda
—University of Utah

President—Tyler A. Woolley, 575 Driggs Ave.
Vice-President — Geno Saccomanno, 1373 Butler Ave.
Secretary—Blaine Taylor, 1064 So. 17th East.
Treasurer—Wayne Brewster, 2600 So. Green Street.

Geno Saccomanno, our Vice-President will be our delegate to the National Convention.

On October 30 a very interesting illustrated lecture was presented to the chapter members and the faculty at one of our regular meetings. Mr. F. W. Christiansen of the University of Utah Geology Dept. addressed the group on the variational life zones, with particular reference to botany, in Zion National Park and Bryce Canyon, located in Southern Utah. He pointed out that the life zones from

Lower Sonoran to Hudsonian could be found in the canyons by examining the plants from the bottom of the canyons to their rims. He added some interesting information concerning the amount of erosion which has taken place. As much as one foot a year has been washed away by water on some of the slopes. He illustrated this by showing several trees whose roots had been almost entirely exposed by erosion. The lecturer mentioned several times that these two canyons presented zoological and botanical laboratories confined to only a few miles.

BLAINE C. TAYLOR.
Chapter Secretary.

Alpha Mu
—University and State College of Oregon

President—Don Marcy, Dept. Zoology, Oregon State College, Corvallis, Oregon.
First Vice-President—Dr. Ethel Sanborn, Dept. Botany, Oregon State College, Corvallis, Oregon.
Second Vice-President—John Pierson, University of Oregon Medical School, Portland, Oregon.
Secretary—Helen Lockren, 439 South 15 Street, Corvallis, Oregon.
Treasurer—Maxwell Doty, 330 So. 15 Street, Corvallis, Oregon.

The Alpha Mu executive committee met in October to plan the year's work. Present plans are to have one open meeting each term in addition to the regular meetings.

At our first business meeting this year we elected our delegate and alternate to the national convention. We elected our president, Don Marcy, as delegate, and Clara Chapman, our last year's president, as alternate.

Our first open meeting was held November 2. Dr. Kenneth L. Gordon showed his most recent movies of animal psychology. Dr. Gordon spends his summers studying the learning ability of small animals such as chipmunks and golden Mantled ground squirrels. He takes very excellent pictures that show the remarkable results he obtains.

Dr. Gordon's movies this year were shown in the auditorium of Oregon State's new Chemistry building, which was opened for use this fall.

HELEN LOCKREN,
Secretary.

Alpha Nu
—University of New Mexico

President—Portz Bretney, 505 S. Walter, Albuquerque, N. Mex.
Vice-President—Oscar Syme, 1620 E. Silver, Albuquerque, N. Mex.
Secretary—Miriam Roberta Higbee, 229 N. Walter, Albuquerque, N. Mex.
Treasurer—Louise Lipp, 2122 E. Silver, Albuquerque, N. Mex.

During the regular meetings Alpha Nu have had the following speakers since last spring:

April 13, 1939: Dr. W. H. Bell, "Plant Harmones".

May 4, 1939: Business meeting to plan for the annual biology day picnic.

May 18, 1939: Miss Dixie Ray Boyd, "Laboratory Diagnosis of Gonorrhea".

Mr. Edward Kijenski, "Testing of Efficiency Index of Antiseptics".

September 21, 1939: Portz Bretney, "Collecting Fish in Northeastern New Mexico".

October 5, 1939: Dr. E. W. Johns, "Allergies".

October 19, 1939: Mr. Miles Black, "Tularemia".

Recently the new members for Phi Sigma have been elected. They are: Robert Buckey, Earl Gerheim, Mary Jamison, Ray Lindenschmidt, John Martin, Harold Taylor, and Robert Spensely. The initiation banquet for them will be held sometime in December.

Miss Miriam Roberta Higbee has been elected as the delegate to the anniversary meeting of Phi Sigma in Columbus, Ohio. Edward Kijenski was selected as the alternate. In addition Gerald Hein, William Wilson, and Robert Spensely plan to attend.

MIRIAM ROBERTA HIGBEE.

Alpha Xi
—Rhode Island State College

President—Louis Stringer, East Hall R. I. S. C., Kingston, R. I.

Vice-President — Natalie Whiteford, Delta Zeta House, R. I. S. C., Kingston, R. I.

Secretary—Virginia Hornby, R. I. S. C,. Kingston, R. I.

Treasurer—Henry Weiss, East Hall, R. I. S. C., Kingston, R. I.

Alpha Xi Chapter of Phi Sigma is holding bi-monthly meetings this year. Four meetings have already been held, including three business meetings and one program.

Fourteen students have been given bids to join Phi Sigma this fall. All are required to present a research paper before initiation.

President Louis D. Stringer is doing research on the properties of red blood cells. He gave an explanation of his work at the first meeting to which the pledges were invited. He discussed osmosis and permeability of erythrocytes in different solutions.

More emphasis is being placed upon research for Alpha Xi members this year. Each member is required to prepare a paper on his work and present it to the Society some time during the year.

President Stringer will be our chapter delegate to the National Convention in Columbus, Ohio.

VIRGINIA F. HORNBY,
Secretary.

Alpha Omicron
—Marquette University

President—Herman Karl, Dept. of Chemistry, Marquette Univ., Milwaukee, Wis.

Vice-President—Marjorie Artus, 1810 N. Cumberland Blvd., Milwaukee, Wis.

Secretary—Norman C. Olson, 2111 N. Booth St., Milwaukee, Wis.

Treasurer—Robert E. Esser, 2021 So. Layton Blvd., Milwaukee, Wis.

At the first regular meeting of the year, Alpha Omicron elected Dr. F. A. Bautsch, S. J. and Dr. Eugene S. McDonough to replace Dr. Paul L. Carroll, S. J. who is now on the staff at Creighton University, Omaha.

An extensive program was arranged for the year.

Our delegate for the National Convention is Arno Michaelis, and the alternate is Robert Esser.

N. C. OLSON,
Secretary.

Book Reviews

THE ANATOMY OF THE BULL FROG, Richard R. Stuart, *Denoyer-Geppert Co., Chicago, 1939. $0.50.*

A planographed manual of large-sized original drawings of the anatomy of Rana catesbiana, the bull frog. It will be of help to teachers and students alike.

ANTHROPOLOGY AND RELIGION, Peter Henry Buck (Te Rangi Hiroa), *Yale University Press, New Haven, 1939. $1.50.*

Just a year ago this magazine carried a review of "Vikings of the Sunrise" by the same author. In that review we mentioned that book's association with Nordoff and Hall's famous "Hurricane". Tonight, as your reviewer types this review, the roar of Orson Welles' radio version re-echoes about the room. All coincidences aside, this new book by Peter H. Buck is a reprint of the latest Terry Lectures at Yale. They deal with three topics of primary interest to anthropologists, phrased by the author as: "Man Creates His Gods, The Gods Create Man", and "The Death of the Gods". The author's contention is that the introduction of Christianity was as fatal to Polynesian culture, as the introduction of modern totalitarian irreligion will be to our traditional Western culture.

THE BRITISH ISLANDS AND THEIR VEGETATION, A. G. Tansley, *Cambridge at the University Press, The Macmillan Co., New York, 1939. $16.00.*

The noted author of "The Journal of Ecology" here presents in a magnificent 930 page tome the extension of his 1911 "Types of British Vegetation". It is divided into nine parts and forty-three chapters, contains 418 photographs and 179 text figures. There is a twenty-eight page index, and there are entirely adequate bibliographies for each of the chapters. These mechanical details however give no idea of the scope of the book, the mere reading of which would, in itself, be a liberal education in ecology. In view of the fact that this work has been compounded out of much of the authoritative articles that have appeared over the names of England's leading ecologists during the past thirty odd years one might be tempted to call it an encyclopedia of British Plant Ecology. No plant ecologist can ignore it.

THE CULTURE HISTORICAL METHOD OF ETHNOLOGY, Wilhelm Schmidt, *Fortuny's, New York, 1939. $5.00.*

With the Nazification of Austria a lot of things changed there overnight. To what extent the schools of the *anschluss*-ed area have been suppressed, straightened, or turned into centers of Nazi propaganda is, perhaps, impossible to tell. We are, therefore, more or less in the dark as to the fate of the famous Vienna School of Ethnology of which the author of this book is the internationally known and respected head. That his new work on the techniques of his school has at last been translated into English is a matter to be thankful for. Too long have we been hearing of the cultural historical method, of kulturkreise or culture circles, without knowing exactly just what was meant by them. Now a careful translation with an enthusiastic introduction by Harvard's Dr. Kuckholm, opens the door to one of the most significant developments in modern ethnology. This is no popular book. It is distinctly hard going for anyone not an ethnologist.

DO YOU WANT TO BECOME A DOCTOR? Morris Fishbein, *Frederick A. Stokes Co., New York, 1939. $1.50.*

The editor of the "Journal of the American Medical Association" here takes the prospective medico by the hand and frankly shows him just what is before him from the beginning of college until he enters the ranks of the specialists. This is a vocational guidance book of an extremely high order, worthy of the profession to-

wards which it points the way for those best fitted.

FIELD GUIDE TO LOWER AQUARIUM ANIMALS, Edward T. Boardman, *Cranbrook Institute of Science, Bloomfield Hills, Mich., 1939.*

This newest publication in the Cranbrook series opens with the disarming statement: "This guide is intended for the use of people who are not afraid of getting their feet wet." Designed for amateur naturalists and nature counsellors, it will also be valuable to fishermen, most of whom don't know the half of it as far as available bait animals are concerned. So much one gleans from the introduction to the book. A further study of its contents reveals the eminently practical nature of the work. It is compact, interesting, and thoroughly scientific. Both popular and scientific names of forms studied are used throughout. As a practical manual for the area east of the Rockies it leaves little to be desired in the invertebrate groups.

FORESTRY AND LUMBERING, Josephine Perry and Celeste Slauson, *Longmans Green & Co., New York, 1939. $1.50.*

This is the second volume in the new "America at Work" series. As an admirably illustrated reference work, well and clearly organized, it affords at once a popular, as well as interesting survey of the history and technique of the lumbering industry throughout the country. Should be in every grade and high school library.

GUIDE TO THE STUDY OF THE ANATOMY OF THE SHARK, THE NECTURUS, AND THE CAT, S. Eddy, C. P. Oliver, J. P. Turner, *John Wiley & Sons, New York. $1.50.*

Originating in the biology department of the University of Minnesota, this laboratory manual has the advantage of practical experience behind it. For institutions operating on the quarter system, it contains a complete outline of laboratory activity for a course in comparative vertebrate anatomy, covering as it does a primitive fish, a transitional land-water, and an entirely land type. Little time is wasted in exacting or artistic drawings. In fact, very few are required.

HANDBOOK OF ELEMENTARY PSYCHOBIOLOGY AND PSYCHIATRY, E. G. Billings, *The Macmillan Co., New York, 1939. $2.00.*

As a guide to a better understanding of the psychic side of a patient, and, for that matter a community, this handy compend is a very desirable addition to our medical literature. Physicians more and more are realizing that there is often greater need for mental than physical treatment in some of their patients. To diagnose this need and commend the services of the right psychiatrist is imperative. It is safe to say that a careful reading of this book will throw light on many obscure types of behavior which are not ordinarily connected with routine illnesses.

ILLUSTRATED MANUAL OF CALIFORNIA SHRUBS, Howard E. McMinn, *J. W. Stacey, San Francisco, 1939. $5.00.*

Although this is a book for the professional botanist, anyone interested in the shrubbery of California will find it useful. Covering anything woody which might be classed as a shrub, the author has excluded only the Cactus family and the trees. The work has been carefully done, more time being spent on trial growing of many of the forms than most taxonomists would even think of attempting. Some eight hundred species and two hundred varieties of native and introduced forms are discussed. There are nearly eight hundred text-figures or illustrations, many of them excellent photographs. There are both a glossary and an index of species names, as well as a helpful bibliography. Not the least of the practical parts of the book is twenty-five page article by F. H. Schumacher of the U. S. Forest Service on the use of California shrubs in landscape work. All in all, this is a valuable work.

INTRODUCTION TO PHYSIOLOGICAL AND PATHOLOGICAL CHEMISTRY, L. Earle Arnow, *The C. V. Mosby Co., St. Louis, 1939. $3.50.*

Designed as a textbook for students in nursing schools, this new manual contains an introduction to chemistry, a section devoted to basic physiological and pathological chemistry, and a third part which covers the import-

Attention!

Plant Taxonomists Geographers and Ecologists:

Editor of the BIOLOGIST:

A new international Address Book of Plant Taxonomists, Geographers, and Ecologists is being prepared by the Editors of Chronica Botanica and will be issued in the near future in the "New Series of Plant Science Books". The Address Book will not only give the names and addresses of the scientists included, but also their scientific interests, together with a conspectus of current and planned research. This is the same kind of information as we aimed at including in Chronica Botanica, when it was issued as a year book (Vols. I/III, 1935/37). Information on new research projects, especially in taxonomy, geography and ecology, in Chronica Botanica, the International Plant Science Newsmagazine, will henceforward be restricted to major cooperative projects and the like. — As it is no longer practicable, or impossible, to compile an address book for the whole of plant science, it is hoped that similar address books will be prepared for the other branches of the plant sciences, *e.g.* general botany (morphology, physiology, genetics), plant pathology, argonomy, horticulture, and forestry: we would be willing to include such books in the "New Series".

The new Address Book will not only provide a conspectus of research workers and projects in pure taxonomy, ecology, geography, palaeobotany, etc. but will list also scientists engaged in the systematic, geographic or ecological aspects of agronomy, forestry, horticulture and pharmacognosy. Its scope will be restricted to professional and amateur scientists actively engaged in research, organizing work, etc. Those with university degrees but not actively engaged in research or scientific work (*e.g.* high school teachers not carrying on research in their spare time and curators of gardens doing only routine work) cannot be included in the book.

A questionnaire card will reach you, either directly this summer, or through your institution or a society, early this autumn. Please complete it and return it without delay. If you receive more than one card, or if you are not engaged in any pure or applied systematic, geographic or ecological research, disregard those received after returning your first form or hand these to colleagues who may not have received it.

Dr. Verdoorn should be greatly obliged if you would draw the attention of your readers to this new address book, now in preparation, and tell them that questionnaire cards for those who wish to be included, can be had free on request.

Editor, Chronica Botanica, P.O. Box 8, *Leiden*, Holland.

ant phases of laboratory work not only in inorganic, but also organic and physiological chemistry. The book is a bit unusual in that the author submitted his manuscript to two persons who had never taken a course in chemistry. Anything not easily understandable to them was rewritten in the light of this experiment. The result is a textbook which fills a very definite need in nursing and, we venture, much other, education.

A JOURNEY ROUND MY SKULL, Frigyes Karinthy, *Harper and Brothers, New York, 1939. $2.50.*

Only once in a blue moon one picks up a book that grips the mind and will not let go. Such a one is this. It matters not that the author is a Hungarian journalist,—the translation is perfectly done. Nor does it matter that it is a subjective story of one man's experiences during the growth and successful removal of a brain tumor,—other men have had the same experience. None, we venture to state, has described the process half so vividly or so well. The world owes a debt to our own Dr. Harvey Cushing for his experimental work in brain surgery. That debt is beginning to be paid in this dramatic story as it unfolds how one man came back from incipient blindness, insanity and seemingly inevitable death under the skillful technique of one of Cushing's Swedish pupils. That the English reviewers have gone over-enthusiastic over this work is not surprising.

KEYS TO THE PHYLA OF ORGANISMS, Fred A. Barkley, *Associated Students' Stores, Missoula, Montana, 1939. $0.75.*

Based on the writings of C. E. Bessey and J. H. Schaffner, this paper-bound volume contains a master-key to the phyla of organisms, and a larger and more extended key to the various orders of the plant phyla. For those who are teaching any courses in which such keys are helpful, taxonomy, morphology and the like, these clearcut keys will be most practical.

LABORATORY MANUAL IN ELEMENTARY ZOOLOGY, Clair A. Hannum and William H. Brown, *Stanford University Press, Stanford University, California, 1939. $1.50.*

This is a small and handy laboratory manual produced by the photolithic process as an introduction to zoology. It seems to offer several fresh and interesting approaches to the teaching of a freshman course. For one thing, physiological biology is not slighted, as is so frequently the case. Botanists long ago began to inject a wholesome amount of laboratory experimentation in physiological processes into their courses for beginning classes. We still review too many zoological lab manuals in which one would be inclined to wonder if their learned producers thought the science of animal life implied anything more than morphology.

LEAVES AND STEMS FROM FOSSIL FORESTS, Raymond E. Jannsen, *Illinois State Museum, Springfield, Ill., 1939. $1.25.*

This is the first of a series of guidebooks to be issued by the Illinois State Museum describing and explaining the collections of the institution. Nothing so elaborately illustrated has been produced in this field, and particularly in the middle West, in recent years. For anyone interested in paleontology, particularly paleobotany, this will be a pleasant surprise.

THE LITTORAL FAUNA OF GREAT BRITAIN, N. B. Eales, *Cambridge at the University Press, The Macmillan Co., New York, 1939. $3.50.*

Anyone who is interested in the ecology of English fauna, or who, more fortunate, is able to make first-hand acquaintance with it *in situ* will want to become acquainted with this new work. The British have not been so fortunate as we Americans in the number of popular guide-books that have been published for many phases of their flora and fauna. This is more surprising in view of the countless guides one picks up for almost every county, city, even building of historical importance. It is a valuable addition to our zoological literature.

THE LIVING THOUGHTS OF DARWIN, Julian Huxley, *Longmans Green & Co., 1939. $1.00.*

The fifth volume in the "Living Thoughts Library", this new work is, like others in the series, a running digest with frequent direct quotations from Darwin's most impotant works.

The technique is not unlike that employed in the many magazine digests on almost every conceivable subject which are so popular now-a-days. For the scientists who really want to know what an author says on a subject there can be no substitute for reading his original work in its entirety. But, strangely enough there are any number of scientists who have never read the outstanding, historically important, works in their own field. The reviewer recalls a rather futile seminar in "The Origin of Species", in which each participant carefully digested his own particular chapter for the edification of the rest, and thus all got the general viewpoint. This little book represents about the same idea, only covering a little more territory. For busy biologists it will be valuable.

PANDORA'S BOX, Marian E. Baer, *Farrar & Rinehart, New York, 1939. $2.00.*

This is a popular book on conservation inspired by Stuart Chase's "Rich Land, Poor Land", and by Paul Sears' "Deserts on the March". While not intensely scientific, which is perhaps just as well since there are still too few Americans who tolerate our technical "jargon", the book manages to cover pretty thoroughly the entire problem of conserving national resources. This is just the sort of work an intelligent, non-biological layman would enjoy. It should be recommended to public librarians everywhere. That it should appear on the shelves of every grade and high school library goes without saying.

PARTNER OF NATURE, Luther Burbank, *D. Appleton-Century Co., New York, 1939. $3.00.*

Elizabeth Waters Burbank, widow of America's foremost plant hybridizer, has here at last presented a connected story of the life-work of her noted husband. Selected and assorted from thousands of pages written during Mr. Burbank's life, this work comes as close to being an authentic autobiography as could possibly be expected. It is hard to realize that Luther Burbank has been dead since 1926. That he lives again in these pages is a triumph for his wife, and his own best memorial.

PROPAGATION OF HORTICULTURAL PLANTS, G. W. Adriance and Fred R. Brison, *McGraw-Hill Book Company, New York, 1939. $3.00.*

This is the latest addition to the publisher's series on the agricultural sciences. As a fundamental text in the horticultural sciences it presents a very workable guide in courses dealing with newer methods and techniques in plant propagation. Seed production, growth of seedlings, and a sexual propagation by all the methods know to horticultural science are treated in detail. There are the usual excellent bibliographies.

SUPPLEMENT TO ROOT NODULE BACTERIA AND LEGUMINOUS PLANTS, E. B. Fred, I. L. Baldwin and E. McCoy, *The University of Wisconsin Press, Madison, 1939. $0.50.*

This is a forty-page supplement to the original work published in 1932. It is mainly devoted to a very extensive bibliography on the subject, an index to scientific plant names, and an index to author citations in the original work.

SMALL GARDENS AND LANDSCAPE PLANTING, Helen Swift Jones, *Wm. H. Wise Co., New York, 1939.*

A handy little pamphlet with several colored illustrations and ground plats for various types of garden areas.

SOME MEMORIES OF A PALAEONTOLOGIST, William Berryman Scott, *Princeton University Press, Princeton, 1939. $3.00.*

American Science is coming of age when it can call for, and receive from the failing hands which are about to drop the torch, such living biographies as this notable work by a noted palaeontologist. Here the early days of American science are relived. From such works as these, and we have, unfortunately, still too few, will we be able to build up an essentially American tradition. With Europe seemingly hell-bent on self-destruction, it is not without reason that thinkers there, and here, begin to see in the U. S. A. the custodian of the scientific heritage of civilization. That civilization needs the steadying hands and ideals of its

founders. Let us hope that more such works as this will not be long delayed.

THE STORY OF SURGERY, Harvey Graham, *Doubleday Doran & Co., New York, 1939. $3.75.*

It will not take much reading of this new work to warrant the quotation from that garrulous Irish medical wit that "This is the best book on surgery I have ever read. The whole world-wide history of surgery is here in detail." The author is not Harvey Graham, that is merely a pseudonym. Whoever he is, he is a student and a scholar, and his work ranks with the best of the various histories of science which have appeared in recent years. That his work is infused with wit as well as wisdom adds no little to its readability. You will not want to miss this book.

WILD FLOWERS OF THE NORTHERN STATES AND CANADA, Arthur Craig Quick, *M. A. Donohue & Co., Chicago, 1939. $4.00.*

Here is a wild flower book that is "different". The author takes you out on weekly trips throughout the year, and each trip brings to light new forms and groups of floral wild life. While the locale of all this tripping is in the Palisades Park Dunes along the shores of Lake Michigan, there are enough of the same wild flowers scattered throughout the central west to make this an attractive approach for one who is looking for a popular and understandable introduction to them. There are many excellent colored illustrations, and nearly three hundred text figures.

Within Reach of Your Chapter Finances

INITIATION INSIGNIA

Does your Chapter carry out the Ritual of Initiation properly? In other words, has your Chapter the model Phi Sigma Key and the large Phi Sigma Coat of Arms required by the Ritual? They are both in easy reach of every Chapter's finances.

The Model Key, furnished in two colored gold, costs only $1.75.

The Coat of Arms, hand-colored on 12x16 heavy paper, only $1.25.

Address all orders, and make all checks payable to the Secretary, Dr. A. I. Ortenburger, Department of Zoology, University of Oklahoma, Norman, Oklahoma.

PHI SIGMA JEWELRY

Membership keys may be obtained from the National Treasurer through Chapter Treasurers, or directly. In the latter case give your name, Chapter and year of initiation, *plainly*.

REVISED PRICES OF KEYS

These prices given include the Federal Tax when required.

Standard Size (official) 10K gold	
Swivel ring top	$5.50
Stationary ring top	5.00
Swivel ring top; mounted as pin; safety clasp	6.75
Stationary ring top; mounted as pin; safety clasp	6.25
Small Size 10K gold	
Swivel ring top	5.00
Stationary ring top	4.50
Stationary ring top; mounted as pin; safety clasp	5.50
Green gold keys, additional	2.00
White gold keys, additional	5.00

To the foregoing prices 10% must be added to meet the changing price of gold.

Address correspondence to:

MR. ERWINE HALL STEWART,
Treasurer of Phi Sigma,
Mesa, Colorado

SUBSCRIPTION BLANK

Detach this page, fill out blank spaces, include check or money order and mail to Mr. Stewart.

Date.....

To MR. E. H. STEWART,
Treasurer of Phi Sigma,
Mesa, Colorado.

Dear Mr. Stewart:

I am enclosing $..... for my subscription to THE BIOLOGIST in the class checked on the schedule below:

1 Year: $ 1.00.....

3 Years: $ 2.50.....

5 Years: $ 4.00.....

10 Years: $ 7.50.....

25 Years: $15.00.....

Life Sub: $25.00.....

Name .....

Address .....

.....

The Duties Of The Chapter Secretary

To the National Secretary:

1. At the beginning of each school year furnish the names *and* addresses of chapter officers.
2. Order all chapter supplies well in advance of time needed.
3. Order certificates at least two weeks before initiation date.
4. Send initiation fees and membership record blanks at time certificates are ordered.
5. Be sure that copies of THE BIOLOGIST are received by *all* members including faculty and honorary members.

To the National Treasurer:

1. Furnish a correct list of chapter officers and addresses.
2. Inform the national treasurer at least a month in advance of the correct number of BIOLOGISTS needed for all your members.
3. Report names, serial numbers and date of initiation of each initiate at time certificates are ordered.

To the Editor:

1. Furnish a correct list of chapter officers and addresses.
2. Send chapter news letters for BIOLOGIST at least four weeks in advance of publication.
3. Send in copies of outstanding biological lectures or addresses (not however research reports) delivered at your institution.
4. Send in helpful suggestions or constructive criticisms concerning THE BIOLOGIST.

A Merry Christmas, Everybody,

and Happy New Year

WITH OUR CHEERY GREETINGS

goes our thankfulness for the splendid cooperation you have given your official jeweler, and our pledge anew to SERVICE.

It is our sincere desire to so please you with our merchandise and service that you will tell your friends of our helpfulness and your confidence in our integrity.

The BALFOUR GUARANTEE

First—That all Balfour-made and sponsored merchandise will be exactly as represented.

Second—That quality for quality, it will represent the best value for the price.

Third—That within these limits complete satisfaction is guaranteed or your money will be refunded.

Official Jeweler to Phi Sigma Society

L. G. BALFOUR COMPANY

Paste on penny post card—Mail today.

Factories:
ATTLEBORO, MASS.
In Canada—Visit or write your nearest Birk's Store.

Gentlemen: Fraternity.....

Please mail me at once my FREE copy of the BALFOUR BLUE BOOK.

Our chapter will hold parties:

month.....19..... Name.....

month.....19..... Street.....

month.....19..... City.....